



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,304	07/01/2003	Michael Andrew Fischer	08-1402-US	5599
20/06 7590 04/13/2010 MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP 300 S. WACKER DRIVE 32ND FLOOR CHICAGO, IL 60606				
EXAMINER				
DAVENPORT, MON CHERI S				
ART UNIT		PAPER NUMBER		
2462				
MAIL DATE		DELIVERY MODE		
04/13/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/611,304

Applicant(s)

FISCHER ET AL.

Examiner

MON CHERI S. DAVENPORT

Art Unit

2462

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-32, 34-37, 39, 40, 42-44, 46, 47 and 49 is/are rejected.
- 7) ☒ Claim(s) 33, 38, 41, 45, and 48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **30-32, 34-37, 39, 40, 42-44, 46, 47 and 49** rejected under 35 U.S.C. 102(c) as being anticipated by Chiang et al. (US Patent 6,813,266).

Regarding **Claims 30-32, 34-36, 39, 40, 42-44 and 47** Chiang et al. discloses a lower medium access control entity, comprising (see figure 2):

Claims 39 and 47, a processor (see figure 2, section 50, processor);

a data storage unit coupled to the processor, wherein the data storage unit comprises a plurality of partial queues, **Claims 31, 35 and 43**, wherein each of the plurality of partial queues has a capacity less than a frame length, and wherein each of the plurality of partial queues has an associated class of service (see figure 2, section 56, PV FIFO queues, output queues 58 priorities, see col. 5-6, lines 58- 20, see col. 7, lines 9-13, the MAC stores a portion of a frame in an internal FIFO upon reception from the corresponding switch port, the size of the FIFO is sufficient to store the frame data that arrives between scheduler time slots (reads on having a capacity less than a frame length) the associated class is related to priorities, see col. 7, lines 50-56, there are low priority and high priority frames and queues); and

Claim 40, a transmitter coupled to the processor, wherein the transmitter has access to a shared communications channel, wherein the processor is configured to (see figure 3, section 24b, transmit portion, see col. 6, lines 29-36)

(i) **Claim 34**, receive from an upper/lower medium access control entity a first portion of a first frame with a first class of service(see col. 6, lines 30-36, frames received, see col. 7, lines 50-56, frames have low or high priority, see col. 7, lines 9-13 portions of a frame received) ;

(ii) **Claim 42**, receive from the upper/lower medium access control entity a first portion of a second flame with a second class of service(see col. 6, lines 30-36, frames received, see col. 7, lines 50-56, frames have low or high priority, see col. 7, lines 9-13 portions of a frame received see ;

(iii) store the first portion of the first flame in a first queue in the plurality of partial queues according to the first class of service(see col. 7, lines 49-56, the frame portion are queue with respect to the Priority(class of service)) ;

(iv) store the first portion of the second flame in a second queue in the plurality of partial queues according to the second class of service((see col. 7, lines 49-56, the frame portion are queue with respect to the Priority(class of service)) ;

(v) determine that the first class of service is higher than the second class of service(see col. 7, lines 49-56, low and high priority (higher than class of service));

(vi) initiate a transmission of the first portion of the first flame into the shared communications channel via the transmitter(see col. 7, lines 40-48, the frame portions are transmitted from the queue);

(vii) in response to the initiation, receive a second portion of the first frame from the upper medium access control entity (see col. 8, lines 62-65, the data frames are processed using pipelining, see col. 10, lines 23 - 50, IRC includes a logically 4-deep rule queue, 120 allocated for each received port, the queue corresponding to each receive port holds four frame headers. However, in alternative configurations, the rules queue 120 may be configured to store other numbers of frame headers for each port, based on the particular network requirements, the IRC scheduler 122 enables the processing of the frame header through the ingress rules engine 200. Logic engines 200-230, as discussed previously, are separate logic devices and are able to process data frames in parallel, the frames headers are processed the other portion of the frames are processed, in portions, frames are from the MAC entity);

(viii) store the second portion of the first frame in the first queue (see col. 7, lines 49-56, the frame portion are queue with respect to the Priority (class of service));

(ix) **Claims 32, 36 and 44**, upon completion of the transmission of the first portion of the first frame, transmit the second portion of the first frame into the shared communications channel via the transmitter (see col. 8, lines 62-65, the data frames are processed using pipelining);

(x) upon completion of the transmission of the second portion of the first frame, initiate a transmission of the first portion of the second frame; (xi) in response to the initiation, receive a second portion of the second frame from the upper medium access control entity; (xii) store the second portion of the second frame in the second queue; and (xiii) upon completion of the transmission of the first portion of the second frame, transmit the second portion of the second frame into the shared communications channel via the transmitter (see col. 10, lines 57-65, the

frames are transmitted in parallel, using pipelining allowing increase throughput, see col. 8, lines 62-65, the data frames are processed using pipelining).

Regarding **Claim 49** Chiang et al. discloses everything as applied above (*see claim 1*).

wherein the transmission of the second portion of the first frame begins immediately after the completion of the transmission of the first portion of the first frame such that the transmission of all of the first frame is continuous, and wherein the transmission of the second portion of the second frame begins immediately after the completion of the transmission of the first portion of the second frame such that the transmission of all of the second frame is continuous (see col. 10, lines 57-65, the frames are transmitted in parallel, using pipelining allowing increase throughput, see col. 8, lines 62-65, the data frames are processed using pipelining, therefore the frames are process continuously).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 37 and 46** rejected under 35 U.S.C. 103(a) as being unpatentable over Chiang et al. in view of Barbas et al. (US Patent 6256315).

Regarding **Claim 37 and 46** Chiang et al. discloses everything as applied above (*see claims 34 and 42*).

Chiang et al. fail to specifically point out wherein the buffer has a first quality of service value and the second buffer has a second quality of service value, the method further comprising: comparing the first quality of service value to the second quality of service value to determine an order of transmitting the first frame and the second frame as claimed.

Barbas et al. teaches wherein the buffer has a first quality of service value and the second buffer has a second quality of service value, the method further comprising: comparing the first quality of service value to the second quality of service value to determine an order of transmitting the first frame and the second frame (see col. 15, lines 32-59, the queue are valued and compared to determine priority order)

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Chiang et al. invention with Barbas et al. invention because Barbas et al. invention provides a system for temporarily storing data units in a network device which maintains the relative priorities of the data units, for example as determined by their QoS levels and/or DE bit values (see Barbas et al., col. 2, lines 25-30)

Allowable Subject Matter

5. Claims 33, 38, 41, 45 and 48 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments filed 1/8/2010 have been fully considered but they are not persuasive.

In the remarks on pg. 10-11 of the amendment, the applicant contends that Chiang does not teach or suggest “responsive to initiating the transmission, receiving at the lower medium access control entity a second portion of the first frame”

Examiner respectfully disagrees Chiang teaches the data frames are processed using pipelining IRC includes a logically4-deep rule queue. The queues corresponding to each receive port holds four frame headers, the IRC scheduler enables the processing of the frame header through the ingress rules engine. The frames headers are processed, then the other portion of the frames are processed, in portions; frames are from the MAC entity.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MON CHERI S. DAVENPORT whose telephone number is (571)270-1803. The examiner can normally be reached on Monday - Friday 8:00 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Seema S. Rao/
Supervisory Patent Examiner, Art Unit
2462

/Mon Cheri S Davenport/
Examiner, Art Unit 2462
March 27, 2010